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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,206	11/27/2001	Christopher L. Hill	STL10005	9541

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EXAMINER	
GLASS, ERICK DAVID	
ART UNIT	PAPER NUMBER
2837	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/995,206	HILL ET AL.	
	Examiner	Art Unit	
	Erick Glass	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/14/2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *34-49 and 51-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *34-49 and 51-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 51, 52, 53, 54, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touchton et al. (4,967,291) in view of Tsenter (6,043,631).

With respect to claim 34, Touchton et al. discloses an apparatus comprising a circuit that monitors a cumulative amount of charge associated with a power supply (col. 7, lines 27-51; Fig. 3, #72; Fig. 4, charge at #80 is monitored by #76 from Figs. 3 and 5), wherein the power is removed from a load when the cumulative amount of charge is at least equal to a predetermined value (cols. 7/8, lines 52-68/1-11; when charge at capacitor 80, as indicated by the voltage appearing at 76, is above a threshold level, all four transistors are opened, thus interrupting power to the windings).

With respect to claim 41, Touchton et al. discloses a system comprising: a motor coupleable to a power supply (Fig. 3, #18 to #54); a sensor coupleable to the motor (Fig. 3, #s 66 and 68 are sensors and sense current); a control circuit including an input and an output (Fig. 3, items #70, 71, 72, 74, 76), the input being coupleable to the sensor (Fig. 3, input to #70 is connected to the sense resistors #s 66 and 68), and wherein the control circuit provides an output signal on the output responsive to an amount of charge provided from the power supply that is at least equal to a

predetermined threshold (Fig. 3, output of #76 is responsive to the voltage/charge accumulated at the capacitor 80 from Figure 4; cols. 7/8, lines 27-68/1-11; responsiveness is at least opening all four transistors).

With respect to claim 47, Touchton et al. discloses a method comprising the steps of: monitoring a charge amount being removed from a power supply, and decoupling the power supply from a load responsive to the charge amount being at least equal to a predetermined level Fig. 3, output of #76 is responsive to the voltage/charge accumulated at the capacitor 80 from Figure 4; cols. 7/8, lines 27-68/1-11; responsiveness is at least opening all four transistors).

Also note that Touchton et al. disclose that the threshold value is supplied to the detector 76 by a control circuit 64, or alternatively, the threshold value is stored within the detector 76 (col. 7, lines 52-60). Touchton et al. also discloses that the control circuit is a microprocessor or minicomputer (col. 6, lines 55-60).

With respect to claims 34, 41, and 47, Touchton et al. does not disclose the value/threshold/level selected from a profile of values that decrease in magnitude during application of power to the load.

Tsenter teaches when a profile (fig. 2) of values that decrease in magnitude during application of power to the load. It would have been obvious to one having ordinary skill in the art at the time of the invention to implement a monitoring of charge of in the power source for recognition of potential adverse conditions (abstract) as taught by Tsenter.

With respect to claim 35, Touchton et al. disclose the load being a motor (col. 2, line 68; voice coil motor).

With respect to claim 36, Touchton et al. disclose drivers that are disabled in response to the cumulative amount of charge being at least equal to the predetermined value (cols. 7/8, lines 52-68/1 -11; "opens all four transistors" and the transistors are interpreted as drivers).

With respect to claims 37 and 40, Touchton et al. discloses disabling driving transistors when a voltage value, which is directly related to the current through the motor, exceeds a predetermined value (col. 8, lines 1-1 1). This is interpreted as minimizing spikes above the predetermined value indicate that the driving transistors should be disabled.

With respect to claim 38, Touchton et al. disclose the cumulative amount of charge being monitored by an integrative device (Figs. 3 and 4, #72).

With respect to claims 39 and 48, Touchton et al. disclose a voice coil motor, which is an inductive load (col. 2, line 68).

With respect to claim 42, Touchton et al. discloses an integrator coupled between the input and the output (Fig. 3, #72).

With respect to claim 43, Touchton et al. discloses a comparator coupled between the input and the output (Fig. 3, #84 of #76).

With respect to claim 44, Touchton et al. discloses a comparator and a latch, which the examiner interprets as a one shot type comparing comparator device because the latch latches the "trigger" signal from the comparator (Fig. 5).

With respect to claims 45 and 46, Touchton et al. discloses motor drivers that are coupleable to the motor and the output (Fig. 3, Q1-Q4 are coupled to #18 and #76 via #64), wherein the motor drivers are controlled responsive to the output signal (cols. 7/8, lines 60-68/1-11; responsiveness is opening all four transistors in response to the charge/voltage at the capacitor 80 from Figure 4).

With respect to claim 51, Touchton et al. disclose decoupling the power supply from the load for a predetermined time (col. 8, lines 45-48; complete reinitialization of the system must be done by periodically resetting the integrating circuit).

With respect to claim 52, Touchton et al. discloses the amount of charge being removed from the power supply of the monitoring step is monitored by sensing an amount of current flowing through the load (Fig. 3, #s 66 and 68 are sensors that sense the current tlowing through the load).

With respect to claim 53, Touchton et al. discloses the monitoring step further comprising accumulating charge in relation to the sensed amount of current flowing through the load (Fig. 4, #80 accumulates charge based on the current flowing through the motor, which is sensed by the sense resistors 36 and 44 from Figure 3).
With respect to claims 54, 55, and 56, Touchton et al. disclose controlling the motor during acceleration (col. 7, lines 34-39).

Response to Arguments

Applicant's arguments filed 11/14/2006 have been fully considered but they are not persuasive. The applicant argues that the rejection is deficient in showing "power is removed from a load when the cumulative amount of charge is at least equal to a

predetermined value from a profile of said values that decrease in magnitude during application of power." Figure 2 of Tsenter fulfills the claim language decreasing in magnitude and being a profile. Next the applicant begins to take apart the references, individually. The motivation for the potential of adverse conditions (overcharging or underchargining) is present in the supply of voltage to a battery (capacitor).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Glass whose telephone number is 571-272-8395. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 571-272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EG